

## Adults' Identity in Acculturation Settings: The Multigroup Ethnic & National Identity Measure (MENI)

Maehler, Débora B.; Zabal, Anouk; Hanke, Katja

Postprint / Postprint

Zeitschriftenartikel / journal article

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:

GESIS - Leibniz-Institut für Sozialwissenschaften

### Empfohlene Zitierung / Suggested Citation:

Maehler, D. B., Zabal, A., & Hanke, K. (2019). Adults' Identity in Acculturation Settings: The Multigroup Ethnic & National Identity Measure (MENI). *Identity: An International Journal of Theory and Research*, 19(4), 245-257. <https://doi.org/10.1080/15283488.2019.1641408>

### Nutzungsbedingungen:

Dieser Text wird unter einer Deposit-Lizenz (Keine Weiterverbreitung - keine Bearbeitung) zur Verfügung gestellt. Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

**gesis**  
Leibniz-Institut  
für Sozialwissenschaften


### Terms of use:

This document is made available under Deposit Licence (No Redistribution - no modifications). We grant a non-exclusive, non-transferable, individual and limited right to using this document. This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.

By using this particular document, you accept the above-stated conditions of use.

Mitglied der  
  
Leibniz-Gemeinschaft

## **Adults' Identity in Acculturation Settings: The Multigroup Ethnic & National Identity Measure (MENI)**

Débora B. Maehler , Anouk Zabal, and Katja Hanke

Department of Survey Design and Methodology, GESIS – Leibniz-Institute for the Social Sciences, Mannheim, Germany

### **ABSTRACT**

European societies are facing great challenges not only in successfully integrating large numbers of culturally, linguistically, and religiously diverse immigrants structurally (e.g. into schools or the labor market), but also in fostering the construction of new identities and preserving social cohesion. In this context, it is crucial to understand the commitment people feel to a cultural environment and the way in which such commitment develops, particularly in new cultural settings. However, there is a lack of research on identity development among adult immigrants and natives and a lack of suitable measurement instruments. To address this, we adapted the Multigroup Ethnic Identity Measure–Revised (MEIM–R) for application to immigrant and native adult populations and extended it to measure also national identity. Our aim in the present study was to test the psychometric properties of this new Multigroup Ethnic & National Identity Measure (MENI) in a representative sample ( $N=3410$ ) of immigrant and native adults (aged 20–72 years) in a European context, namely Germany. Results based on confirmatory factor analyses support a two-factor structure (commitment and exploration) for MENI and confirm scalar invariance across both the immigrant and native adult populations.

### **KEYWORDS**

Multigroup Ethnic Identity Measure–Revised (MEIM–R); Multigroup Ethnic & National Identity Measure (MENI); identity scale; immigrant; adults; acculturation

### **Introduction**

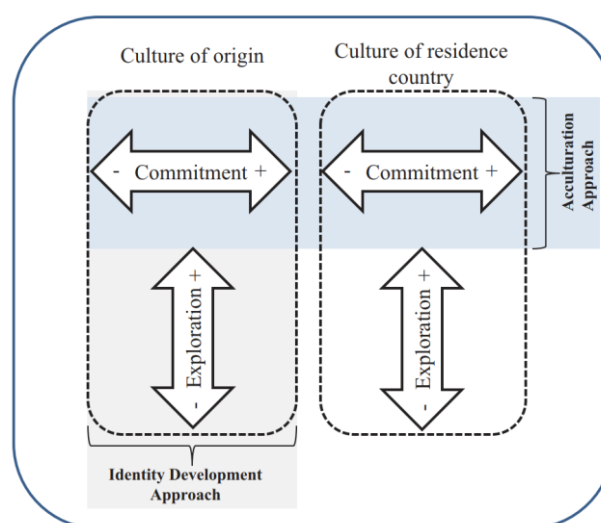
Individuals' identification with their culture of origin and/or their current cultural environment is a fundamental issue in a globalized world with fading borders. Emigration has increased worldwide and will continue to do so in the future (Organisation for Economic Co-operation and Development [OECD], 2016). European countries, in particular, have recently been facing high rates of refugee immigration and are dealing intensively with identity issues – among both the immigrant and the non-immigrant populations.

To support the acculturation of immigrants, and to maintain social cohesion within receiving countries, it is essential to understand the commitment that people feel to a given cultural environment (Orton, 2012; Valle Painter, 2013) and the way in which such commitment develops, particularly in new cultural settings, as is the case for immigrants. The need to belong is considered to be a crucial human motivation, and having a sense of belonging is vital for individual well-being, feeling trust in others, and getting involved in the local community (e.g., Valle Painter, 2013). A sense of belonging and social cohesion can be built on common values and through positive interactions in everyday life (e.g., Orton, 2012).

Based on the acculturation approach (e.g., Berry, 1997) and on the identity development approach (e.g., Phinney, 1989) commonly adopted in research on young people in the American context, we

extended the theoretical framework to investigate adult identity development in a contemporary European cultural setting. Specifically, we adapted Phinney and Ong's (2007) Multigroup Ethnic Identity Measure–Revised (MEIM–R) for application to both immigrant and native adult populations and we extended it to measure also national identity. Our aim in the present study is, first, to ascertain the factor structure of scores generated by a bidimensional measure of ethnic and national identity in adults and to confirm the theoretical factor structure with empirical data; and second, to establish measurement invariance of the scales between natives (here Germans) and immigrants in order to ensure meaningful and interpretable mean comparisons across these population groups. As Germany is currently one of the most important migration destinations in the world (OECD, 2016), it is a very suitable European case study to test the adapted and extended measure.

The *identity development approach* focuses on *ethnic* identity and its development in young people. Phinney (2003) defined ethnic identity as “a dynamic, multidimensional construct that refers to one’s identity of self as a member of an ethnic group” (p. 63). This approach considers individuals’ perception of their ethnicity and the role that they assign to it in their lives, regardless of their actual individual ethnic involvement. As illustrated in Figure 1 (see vertical model), ethnic identity is composed of two factors, exploration and commitment. *Exploration* subsumes efforts to learn more about one’s own ethnic group and participation in ethnic cultural practices; *commitment* refers to positive affirmation of one’s ethnic group and a strong sense of belonging (Phinney, 2003). Phinney (1989) distinguished three developmental stages of ethnic identity, with different patterns of exploration and commitment: unexamined ethnic identity, ethnic identity search/moratorium, and achieved ethnic identity. The unexamined ethnic identity stage is characterized by a lack of exploration of one’s own ethnic group. Individuals in this stage do not engage with their ethnic identity at all; rather, without any previous identity exploration, they merely adopt the values and characteristics of the majority group. The second stage of development – ethnic identity search/moratorium – involves a thorough exploration of one’s own ethnic group. For example, the adolescents interviewed by Phinney (1989) expressed a strong interest in their culture of origin, strived to learn more about it from their families or from history books, and reflected on potential upcoming challenges in the context of their own migration background. The third and final stage of ethnic identity development optimally culminates in an “achieved ethnic identity,” which Phinney (1992) characterized as a “clear, confident sense of one’s own ethnicity” (p. 71). Following a period of intensive exploration, this final phase is characterized by a self-confident ethnic identity with flexible and objective views



**Figure 1.** Identity development approach in an acculturation setting.

on one's own ethnic group membership. Phinney and Ong (2007) argued that exploration "is unlikely without at least a certain level of commitment," that "more exploration is likely to lead to a stronger commitment," and that, "likewise, commitment or attachment to one's group is expected to promote interest in exploring one's ethnicity" (p. 278).

*Acculturation* refers to a process undergone by an individual after arriving in a foreign cultural setting – that is, a cultural setting different from the one in which he or she was initially socialized (Chirkov, 2009, p. 94). Acculturation encompasses a broad process of psychological and socio-cultural adaptation following intercultural contact. It can be understood as adaptation to the culture of the residence country and can lead to changes in different domains (e.g., identity, language). Research on acculturation often uses two-dimensional models that assume that an immigrant can simultaneously commit to the culture of origin and to the culture of the new residence country (see horizontal model in Figure 1). To meaningfully describe this acculturation process, acculturation profiles are often derived from these two dimensions. Berry (1997), for instance, proposed four acculturation profiles – assimilation, separation, integration, and marginalization – reflecting different combinations of degree of commitment to the culture of origin and to the residence country. Individuals with an assimilation profile, for instance, show a weak commitment to the culture of origin and a strong commitment to the country of residence.

Table 1 provides a comparative overview of the identity development and acculturation approaches outlined above. Whereas the factor *commitment* is found in both approaches, the factor *exploration* is neglected in the acculturation approach. Phinney's model of identity development focuses exclusively on the development of ethnic identity – or rather, on identification with the culture of origin. Yet, in an acculturation context, the development of immigrants' identification with the culture of the residence country is equally relevant. To date, there is a lack of research on the identity development process of immigrants with respect to the culture of their residence country. Thus, studies are required that investigate identity development with respect to both the culture of origin and the culture of the residence country. Immigrants who actively and extensively explore both cultures may identify with both cultures simultaneously. Although acculturation research (e.g., Berry, 1997) has explored the relationship between the two identities, it focuses only on the commitment factor. Our research represents an innovative first step toward closing this gap by analyzing the development of immigrants' national identity (in our case their commitment to German culture) within the same framework as that for ethnic identity development (see column 3 in Table 1).

Ethnic identity, as described by Phinney, is the result of identity formation within the culture of origin. In the German context, if we look at Turkish immigrants living in Germany as a typical example, their ethnic identity refers to their identification with Turkish culture; the ethnic identity of native Germans (without a migration background) refers to their identification with German culture. Moreover – and as postulated in Berry's (1997) acculturation model – a Turkish immigrant in Germany can also identify with German culture; we will refer to this as "national identity." For native Germans, ethnic and national identities coincide, whereas Turkish immigrants have both an ethnic (Turkish) identity and a national (German) identity.

The ethnic identity development approach has rarely been applied to the adult population (e.g., Fadjukoff, Pulkkinen, & Kokko, 2016). Therefore, the present study expands the identity development perspective by focusing on the adult lifespan. The process of identity building is not necessarily stable once a specific stage has been attained. Rather – viewed as a process of social development – it can occur throughout the lifespan (Quintana, 2007; Syed, Azmitia, & Phinney, 2007). This is true especially of adults who have immigrated to another country (first-generation immigrants) and for whom the new cultural context triggers a new identity development process to re-define or adjust their identity. So far, little attention has been paid in the literature to first-generation immigrants; most identity research is based on second-generation immigrant samples. However, second-generation immigrants are likely to have been socialized in the culture of the host country.

**Table 1.** Overview of the acculturation approach and the identity development approach.

Approach	Acculturation	Identity Development	Identity Development by Acculturation
Key assumptions	Describes the adaptation to a “new” cultural setting, different from the one in which the individual was originally socialized. The psychological and socio-cultural adaptation to the culture of the residence country can lead to changes in different assessment domains (e.g., identity, language).	Describes the process of ethnic identity formation of self as a member of an ethnic group or culture of origin. Distinguishes two main factors: exploration (effort undertaken to learn more about one’s own ethnic group), and commitment (current sense of belonging to ethnic group).	Describes the process of ethnic and national identity development with respect to two cultural settings (culture of origin <i>and</i> culture of residence country). Distinguishes two main factors: exploration (to learn more about the relevant ethnic group), and commitment (current sense of belonging to relevant ethnic group).
Key authors	e.g., Berry (1997)	e.g., Phinney (1989); Phinney and Ong (2007)	Maehler, Zabal, & Hanke (2019)
Dimensionality	Two-dimensional (two cultural settings: culture of origin and culture of residence country)	One-dimensional (one cultural setting: country of origin)	Two-dimensional (culture of origin and culture of residence country)
Assessment	Status indicator (e.g., commitment)	Status and process indicators (commitment and exploration)	Status and process indicators (commitment and exploration)
Derivation of profiles	Combination of the degree of commitment to both cultural settings (e.g., integration, assimilation)	Combination of the degree of commitment and exploration within one cultural setting (e.g., moratorium, achievement)	Combination of the degree of commitment and exploration within both cultural settings.
Target group	Immigrant population (self or parents emigrated to another cultural setting)	General population: immigrants and natives (in the US focus on ethnic minorities)	General population: immigrants and natives (focus on first-generation immigrants)
Age range	Children, adolescents, adults	Children, adolescents	Adults

The Multigroup Ethnic Identity Measure–Revised (MEIM–R) was designed by Phinney and Ong (2007) specifically to assess ethnic identity in children and adolescents from diverse cultural backgrounds (multigroup) in the United States in terms of two factors, exploration and commitment. In Europe, a psychometric validation has currently confirmed the two-factor structure of the MEIM–R only in Italy, in an adolescent sample comprising natives and mixed-generation immigrants (Musso, Moscardino, & Inguglia, 2018). We adapted the MEIM–R to the German cultural setting by integrating the two conceptual approaches presented above (see Figure 1) with a view to the requirements underlying the assessment of immigrants and the native adult population. Our new instrument – the Multigroup Ethnic & National Identity Measure (MENI) – is designed to assess the ethnic and national (German) identity of adult immigrants from diverse cultural backgrounds and the ethnic-national identity of adult natives in Germany in terms of two factors, commitment and exploration.

The first empirical question that will be addressed is whether both the ethnic identity and the national identity scales of MENI have a two-factor structure (exploration and commitment). The second question is whether the two-factor structure of the national identity scale is invariant across both the immigrant and the native German samples. Moreover, previous research has suggested that cultural identity and subjective well-being are correlated (e.g., Valle Painter, 2013; Wakefield et al., 2017; Yoon, 2011). Criterion validity will be tested by examining this correlation in the present study.

## Method

### *Sample and procedure*

A total of 3,410 adults aged 20 to 72 years (nationals:  $M_{nat} = 49.35$  years,  $SD_{nat} = 13.99$ ; immigrants:  $M_{mig} = 45.05$  years,  $SD_{mig} = 13.69$ ) participated in the present study; 3,085 were German

natives (51.4% female), 325 were immigrants (57.8% female). Immigrants were operationalized as “born abroad with both parents born abroad,” i.e. we focussed exclusively on first-generation immigrants. Analogously, we defined a native as a person whose parents were both born in Germany. Educational attainment was classified according to the International Standard Classification of Education (ISCED; UNESCO, 1999). Of the native participants, 3.7% had a low level of education (ISCED level 2 and below), 64% had a medium level (ISCED levels 3 and 4), and 32.3% had a high level of education (ISCED level 5 and higher). Of the immigrant participants, 13.5% had a low level of education (ISCED level 2 and below), 49.7% had a medium level (ISCED levels 3 and 4), and 36.8% had a high level of education (ISCED level 5 and higher). Information on country of origin was available for 62.8% of the immigrants; the majority moved to Germany after 1991 from the Russian Federation (17.8%), Turkey (4.6%), or other European countries (23.7%) such as Poland (5.5%) and Italy (2.2%).

The data for the present study were collected by the GESIS Panel as a part of the data collection for Wave cf (c refers to the year and f to the wave in that year), which was conducted between December 2015 and February 2016 (GESIS, 2016a; Tanner, Schaurer, Enderle, & Weyandt, 2016). The GESIS Panel study followed the guidelines for good scientific practice (see Leibniz Association, 2015). The GESIS Panel is a probability-based access panel that collects data from a representative sample of the German-speaking population aged between 18 and 70 years and (permanently) resident in Germany (GESIS Panel, 2016b). The omnibus survey is conducted in both an online and an offline self-administered mode. For our study, 62% of the panelists participated online (web-based) and 38% completed a paper questionnaire sent by postal mail. Self-completion of the questionnaire took 20 minutes on average; the module with the ethnic identity scale and the national (German) identity scale took five minutes, on average, to complete. The overall completion rate was 90.01% (online: 92.02%; offline: 86.07%).

### ***Measurement instrument***

The Multigroup Ethnic Identity Measure – Revised (Phinney & Ong, 2007) was translated into German following the TRAPD (translation, review, adjudication, pretesting, and documentation) approach (Harkness, 2003). The aim was to achieve a translation that was equivalent to the source, idiomatic in German, and also as linguistically simple as possible in order to be appropriate for non-native speakers with varying degrees of mastery of the German language. The greatest challenge was finding an appropriate translation for “ethnic group” that would be understood (in a similar way) by adults with very different backgrounds. Despite a long discussion in the scientific community on how to operationalize “ethnic group” in the German culture and language, no satisfactory solution was available at the time (see, e.g., Maehler, Teltemann, Rauch, & Hachfeld, 2015). The translation of “ethnic group” – *Herkunftskultur* (culture of origin) – that was agreed on during the translation reconciliation process was subsequently tested in a cognitive pretest.

Cognitive interviewing techniques are used to explore how respondents understand questions or specific terms in order to identify problems with item wordings and to suggest improvements. Thus, the cognitive pretest focused on whether immigrants and German natives understood the German translation of “ethnic group” (*Herkunftskultur*) as intended and whether the term was understood uniformly. The cognitive pretest interviews were carried out by the pretesting laboratory at GESIS – Leibniz-Institute for the Social Sciences (see Otto et al., 2015). They revealed that, although varied individual descriptions were associated with the term *Herkunftskultur*, respondents with a migration background generally understood the term in a similar way – namely, as a construct involving values, traditions, and customs. For immigrants, the results therefore supported the use of *Herkunftskultur* in the German version of the ethnic identity scale. However, for some of the German nationals, *Herkunftskultur* had affective connotations that tinged their interpretations. Thus, the cognitive pretesting experts recommended that, in the national (German) identity scale,

**Table 2.** Multigroup Ethnic & National Identity Measure (MENI).

Item No.	MEIM–R	MENI Ethnic Identity Scale	MENI National Identity Scale
1	I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs. (E)	Ich habe Zeit damit verbracht, mehr über meine Herkunftskultur herauszufinden, z.B. über ihre Geschichte, Traditionen und Bräuche. (E)	Ich habe Zeit damit verbracht, mehr über die deutsche Kultur herauszufinden, z.B. über ihre Geschichte, Traditionen und Bräuche. (E)
2	I have a strong sense of belonging to my own ethnic group. (C)	Ich fühle mich meiner Herkunftskultur stark zugehörig. (C)	Ich fühle mich der deutschen Kultur stark zugehörig. (C)
3	I understand pretty well what my ethnic group membership means to me. (C)	Mir ist ziemlich klar, was die Zugehörigkeit zu meiner Herkunftskultur für mich bedeutet. (C)	Mir ist ziemlich klar, was die Zugehörigkeit zur deutschen Kultur für mich bedeutet. (C)
4	I have often done things that will help me understand my ethnic background better. (E)	Ich habe häufig aktiv etwas dafür getan, meine Herkunftskultur besser zu verstehen. (E)	Ich habe häufig aktiv etwas dafür getan, die deutsche Kultur besser zu verstehen. (E)
5	I have often talked to other people in order to learn more about my ethnic group. (E)	Ich habe oft mit anderen Personen gesprochen, um mehr über meine Herkunftskultur zu erfahren. (E)	Ich habe oft mit anderen Personen gesprochen, um mehr über die deutsche Kultur zu erfahren. (E)
6	I feel a strong attachment towards my own ethnic group. (C)	Ich fühle mich meiner Herkunftskultur eng verbunden. (C)	Ich fühle mich der deutschen Kultur eng verbunden. (C)

Notes. Source of the English-language items: Phinney and Ong (2007, p. 276). MEIM–R: Multigroup Ethnic Identity Measure – Revised. The original 5-point MEIM–R scale, ranging from (1) *strongly disagree* through (3) neutral position, to (5) *strongly agree*, was translated into German as: (1) *Stimme überhaupt nicht zu*, (2) *Stimme eher nicht zu*, (3) *Teils/teils*, (4) *Stimme eher zu*, and (5) *Stimme voll und ganz zu*.

the culture be specified for all respondents – that is, the term *deutsche Kultur* (German culture) should be used instead of *Herkunftskultur* (culture of origin).

Table 2 provides the final German translation of the MEIM–R and its adaptation for the assessment of ethnic and national (German) identity. As can be seen from the table, the exploration factor (E) and the commitment factor (C) are measured by three items, respectively.

We examined whether there were issues with item comprehension and whether scale measures were impacted by motivational aspects. Overall, respondents did not have any difficulty interpreting the meaning of the questions in the questionnaire (scale ranging from 1 = *not at all* to 5 = *very*;  $M_{mig} = 1.93$ ,  $SD_{mig} = .84$ ;  $M_{nat} = 1.84$ ,  $SD_{nat} = .82$ ). With respect to motivation, respondents reported that they found the questionnaire interesting (scale ranging from 1 = *not at all* to 5 = *very*;  $M_{mig} = 3.83$ ,  $SD_{mig} = .86$ ;  $M_{nat} = 3.80$ ,  $SD_{nat} = .86$ ).

### Statistical analysis

The statistical analysis comprised the followings steps: The psychometric validation of the identity scales, which entailed testing the two-factor structure and measurement invariance and verifying criterion validity. The factor structure and measurement invariance of MENI for adult immigrants and natives were tested by means of confirmatory factor analysis (CFA) and a multigroup confirmatory factor approach (MGCFA) using RStudio with the R packages lavaan (Rosseel, 2012) and semTools (semTools Contributors, 2016). We conducted a missing value analysis using Little's missing completely at random (MCAR) test. Missing data were systematically missing for the ethnic identity measurement but not for the national identity measurement. Systematically missing data were handled using multiple imputation with the expectation-maximization (EM) technique. We used listwise deletion with randomly missing data.

The chi-square test, the root mean square error of approximation (RMSEA), and the comparative fit index (CFI) were used to test model fit. A model is considered to fit the data well if (a) the  $p$  value of the



chi-square test is equal to or larger than .05; (b) the RMSEA is below .06 (the model fit is considered acceptable for values below .08; see Hu & Bentler, 1999); (c) the CFI is greater than .97

(the model fit is considered acceptable for values greater than .95; see Schermelleh-Engel, Moosbrugger, & Müller, 2003). Internal validity was examined by computing Cronbach's alpha and McDonald's omega coefficients to evaluate reliability (values > .70 are considered acceptable). To check outliers, we used  $z$  scores (Field, 2005). As expected in a normal distribution, no absolute value was greater than 3.29. However, for four items, more than 1% of the sample ( $n = 135$ ) had absolute values greater than 2.58. After performing the subsequent analyses with and without these cases, we found no noteworthy deviation from the results with these cases. Thus, we retained these cases in the final sample.

As Waterman (2015) pointed out, instruments used to study identity exploration and commitment should, but rarely do, include indicators of the importance and salience of these factors for respondents. The present study therefore included an item specifically asking respondents: "How important is identifying with a culture for you?" Furthermore, according to previous theoretical and empirical work (e.g., Romero & Roberts, 2003; Yoon, 2011), high levels of exploration and commitment should correlate positively with indicators of subjective well-being, particularly for immigrants. Therefore, we included an OECD (2013) indicator for life satisfaction ("How dissatisfied or satisfied are you with your life overall?"). Although multiple-item measures of life satisfaction perform better than single-item measures, single-item indicators for life satisfaction show acceptable properties (OECD, 2013). Subjective well-being was also operationalized using an indicator for perceived discrimination as measured with the item "How often do you feel disadvantaged because of your culture of origin?" (Maehler, 2012). Single-item indicators were implemented due to survey time limitations imposed by the GESIS Panel procedure. Criterion validity was verified by checking the relationship of the scales with external indicators using Pearson's correlation coefficient ( $r$ ).

## Results

### Testing measurement invariance

For both scales, a two-factor structure was superior to a one-factor structure (see Tables 3–5 for goodness of fit). Measurement invariance of the national (German) identity scale for immigrants versus natives was tested. Scalar invariance could be established: The measurement invariance test supported configural invariance,  $\chi^2(16) = 219.10$ ,  $\chi^2/df = 2.26$ , CFI = .982, RMSEA = .089; metric

**Table 3.** Confirmatory factor analysis model fit indexes for one-factor and two-factor solutions for the immigrant sample ( $N = 325$ ), ethnic identity.

Model	Overall $\chi^2$	$df$	$\chi^2/df$	CFI	SRMR	RMSEA	CI for RMSEA
One-factor ethnic identity	149.13***	9	16.57	.85	.077	.219	.189-.250
Two-factor ethnic identity: exploration and commitment	28.23***	8	3.53	.98	.041	.088	.054-.125
	$\Delta\chi^2$			$\Delta CFI$	$\Delta SRMR$	$\Delta RMSEA$	
One-factor versus two-factor	120.90			.07	.036	.131	

\*\*\*  $p < 0.01$

**Table 4.** Confirmatory factor analysis model fit indexes for one-factor and two-factor solutions for the native sample ( $N = 3,085$ ), national identity.

Model	Overall $\chi^2$	$df$	$\chi^2/df$	CFI	SRMR	RMSEA	CI for RMSEA
One-factor national identity	1,762.13***	9	195.79	.84	.082	.257	.247-.268
Two-factor national identity: exploration and commitment	178.00***	8	22.25	.98	.025	.085	.074-.096
	$\Delta\chi^2$			$\Delta CFI$	$\Delta SRMR$	$\Delta RMSEA$	
One-factor versus two-factor	1,584.13			.14	.57	.172	

\*\*\*  $p < 0.01$

**Table 5.** Confirmatory factor analysis model fit indexes for one-factor and two-factor solutions for the immigrant sample (N = 325), national identity.

Model	Overall $\chi^2$	df	$\chi^2/df$	CFI	SRMR	RMSEA	CI for RMSEA
One-factor national identity	184.53***	9	20.50	.81	.093	.255	.223-.287
Two-factor national identity: exploration and commitment	41.10***	8	5.14	.96	.050	.117	.083-.154
	$\Delta\chi^2$			$\Delta$ CFI	$\Delta$ SRMR	$\Delta$ RMSEA	
One-factor versus two-factor	143.43			.15	.043	.138	

\*\*\*  $p < 0.01$

invariance,  $\chi^2(20) = 223.31$ ,  $\chi^2/df = 2.92$ , CFI = .982, RMSEA = .079,  $\Delta$ CFI = .00,  $\Delta$ RMSEA = .009; and scalar invariance,  $\chi^2(24) = 279.66$ ,  $\chi^2/df = 3.03$ , CFI = .978, RMSEA = .081,  $\Delta$ CFI = .005,  $\Delta$ RMSEA = .002. According to Rutkowski and Svetina's (2014) cut-off criteria, which suggest certain thresholds between the different levels of invariance, our values were within the recommended thresholds of RMSEA = .10,  $\Delta$ CFI = .02, and  $\Delta$ RMSEA = .03 from the configural to metric invariance model, and both  $\Delta$ CFI and  $\Delta$ RMSEA were within the .01 cutoff from the metric to scalar invariance model. Thus, comparisons of means are justified and meaningful.

### Testing internal consistency

Cronbach's alpha ( $\alpha$ ) and McDonald's omega ( $\omega$ ) coefficients were examined to determine the internal consistency of MENI. For the immigrant sample, excellent reliability was found for the exploration and commitment subscales of ethnic identity ( $\alpha = .80$ ,  $\omega = .81$ ;  $\alpha = .83$ ,  $\omega = .85$ ) and national (German) identity ( $\alpha = .84$ ,  $\omega = .84$ ;  $\alpha = .85$ ,  $\omega = .86$ ). Similarly, for the native sample, the two subscales of national (German) identity also showed very good reliability ( $\alpha = .85$ ,  $\omega = .86$ ;  $\alpha = .88$ ,  $\omega = .88$ ). The overall scale scores yielded values that indicated excellent reliability (immigrants: ethnic identity  $\alpha = .86$ ,  $\omega = .86$ ; national (German) identity  $\alpha = .87$ ,  $\omega = .85$ ; natives: national (German) identity  $\alpha = .89$ ,  $\omega = .89$ ). The McDonald's omega values obtained were very similar to the Cronbach's alpha values, indicating that there were not very many violations in the data. Table 6 provides the corresponding item statistics for the two scales for immigrants and natives.

**Table 6.** Means, standard deviations, and correlation matrix of MENI.

	Item no.	M	SD	1	2	3	4	5	Standardized factor loadings
<i>Ethnic Identity Among Immigrants (n = 222)</i>									
Exploration factor	1	3.77	0.99						.605
	4	3.41	1.12	.623**					.724
	5	3.34	1.11	.463**	.617**				.604
Commitment factor	2	3.61	1.01	.487**	.539**	.362**			.796
	3	3.86	0.92	.420**	.508**	.341**	.614**		.592
	6	3.53	1.11	.499**	.525**	.316**	.757**	.504**	.709
<i>National Identity Among Immigrants (n = 320)</i>									
Exploration factor	1	3.41	0.98						.678
	4	3.31	1.05	.595**					.691
	5	3.46	1.08	.630**	.651**				.719
Commitment factor	2	3.34	0.98	.358**	.430**	.320**			.759
	3	3.60	0.95	.444**	.539**	.452**	.620**		.662
	6	3.33	1.03	.446**	.536**	.461**	.736**	.616**	.756
<i>National Identity Among Natives (n = 3,032)</i>									
Exploration factor	1	3.14	1.12						.676
	4	2.93	1.06	.655**					.773
	5	2.86	1.09	.599**	.730**				.731
Commitment factor	2	3.60	0.98	.491**	.534**	.459**			.812
	3	3.60	0.97	.493**	.573**	.511**	.721**		.740
	6	3.42	1.06	.438**	.559**	.505**	.760**	.669**	.771

For the immigrant sample, there was a large correlation between the exploration and commitment subscales of ethnic identity, with  $r = .603$  ( $p < .001$ ); the same holds for the subscales of national (German) identity, with  $r = .590$  ( $p < .001$ ). Results for the immigrant sample show a moderate correlation between the exploration subscales of ethnic and national (German) identity ( $r = .297$ ;  $p < .001$ ), but a small, non-significant correlation between the commitment subscales. For the native group, there was a large correlation between the exploration and commitment subscales of national identity ( $r = .638$ ;  $p < .001$ ).

### Testing criterion validity

Identity exploration and commitment were positively correlated with the relative importance given to cultural identification (Table 7). This was the case for both samples and both subscales of ethnic and national identity. Furthermore, the results show that, as expected, life satisfaction was positively related to the subscales of national identity for both immigrants and natives. However, life satisfaction was not significantly correlated with immigrants' ethnic identity. There was a small, non-significant correlation between the subscales of ethnic/national identity and discrimination.

### Discussion

Given the lack of research on the development of identity in receiving societies in Europe, and the relative scarcity of research on identity formation in adults, this study attempted to address these theoretical and methodological gaps. In the European context, for instance, the MEIM-R has been tested only in Italy, in an adolescent sample (Musso et al., 2018) using a one-dimensional approach (measuring the sense of belonging to the country of origin). The aim of the present contribution was to examine the psychometric properties of MENI, an extended German-language version of the MEIM-R, which was designed for measurement of ethnic and national identity among the adult immigrant population (two-dimensional approach) and national identity among the native population. Confirmatory factor analyses supported the correlated two-factor (exploration and commitment) structure of ethnic identity. The correlated two-factor structure of national (German) identity was also confirmed for the immigrant and native populations. Cronbach's alpha and McDonald's omega coefficients supported the internal reliability of the subscales (exploration and commitment) for ethnic and national identity and for both the immigrant and the native samples. Thus, the clear factor structure and high internal consistency support the use of the subscales to derive identity statuses (e.g., following Phinney's identity development concept; Phinney, 1989) or profiles (e.g., according to Berry's acculturation concept; Berry, 1997). The positive correlation between the subscales of ethnic and national identity, and the measure of the importance attached to identifying

**Table 7.** Criterion validity for MENI.

	Immigrants		Immigrants		Natives	
	Ethnic identity: exploration	Ethnic identity: commitment	National identity: exploration	National identity: commitment	National identity: exploration	National identity: commitment
Importance of identifying with a culture <sup>1</sup>	.315**	.364**	.148*	.165*	.456**	.623**
Life satisfaction <sup>2</sup>	.044	.083	.203**	.234**	.124**	.154**
Discrimination <sup>3</sup>	-.003	-.116	-.058	-.105	-.017	-.093

Notes. Immigrants  $N = 214$ , natives  $N = 2,890$ ; 1) Item was rated on a 5-point Likert scale ranging from 1 (*not at all important*) to 5 (*very important*);  $M_{mig} = 3.61$ ,  $SD_{mig} = .99$ ;  $M_{nat} = 3.38$ ,  $SD_{nat} = .99$ ; 2) Item was rated on 10-point Likert scale ranging from 1 (*completely dissatisfied*) to 10 (*completely satisfied*);  $M_{mig} = 7.59$ ,  $SD_{mig} = 1.95$ ; 3) Item was rated on 5-point Likert scale ranging from 1 = *not at all* to 5 = *very often*;  $M_{mig} = 2.17$ ,  $SD_{mig} = 1.08$ ;  $M_{nat} = 1.54$ ,  $SD_{nat} = .88$ .

\* =  $p < 0.05$ ; \*\* =  $p < 0.01$ .

with a culture, support the assumption that the underlying construct is, indeed, relevant to respondents (i.e., appropriate domain coverage; Waterman, 2015).

Regarding criterion validity, we also explored how the factors of ethnic and national identity were related to indicators of well-being. Whereas exploration and commitment were modestly positively correlated with life satisfaction scores for national (German) identity, no relationship to the respective subscales was identified for immigrants' ethnic identity. These results are quite consistent with the pattern of findings reported in prior studies on well-being using MEIM subscales (e.g., Syed et al., 2013). Indeed, Syed et al. (2013) pointed out that most of the research in this area had considered only the commitment domain. They postulated that the relationship between identity search and well-being was likely dependent on the individual developmental stage of ethnic identity.

Our results should be interpreted with a view to the German cultural context: Immigrants' identification with their culture of origin may have a positive effect (remaining well-grounded in their roots with a good sense of their own identity) or a negative impact (predominantly Muslim cultures, in particular, may have negative associations in Germany), thus affecting their subjective well-being in different ways. Ethnic identity may sometimes not be as relevant to immigrants' well-being, especially if their focus is on adapting to German culture. The positive correlation between life satisfaction and national identity may reflect the feeling of being well integrated in the majority culture.

Perceived discrimination correlated neither with the exploration nor with the commitment subscales of ethnic and national (German) identity. These results are consistent with previous findings, for example from a cross-national study of adolescents conducted by Phinney, Berry, Vedder, and Liebkind (2006). However, this relationship is likely to vary depending on the sample and the specific study design.

Our results reveal a positive correlation between the exploration subscales of ethnic and national identity for immigrants. Evidence from cross-cultural research indicates that these subscales are independent; they may be positively or negatively correlated, or uncorrelated, depending on the cultural context (e.g., Berry et al., 2006). Similar to the findings of Schwartz et al. (2012) for immigrants in the United States, our results suggest that it is plausible that the two aspects of immigrants' identity exploration – what it means to belong to their culture of origin and what it means to belong to German culture – are related. According to acculturation assumptions, this indicates the development of an integrated sense of identity that incorporates elements of both cultures/countries (Berry, 1997). Similarly, Van de Vijver, Blommaert, Gkoumasi, and Stogianni (2015) underlined in their studies the compatibility and the link between national identity in Western societies and immigrants' ethnic identity.

### ***Limitations***

Germany has absorbed large waves of refugees in the past few years. Although the present sample included the largest immigrant groups in Germany in the past decades, recent refugees had not yet been included in the GESIS Panel sample for our wave of data collection. A further limitation of our study could be the fact that the exploration items were worded in the present perfect tense in the original English version and thus also in the German translation. Waterman (2015) pointed out that both the commitment (present) and exploration subscales should use the same tense; this is even more important in German. In addition, the use of the present perfect tense may hamper the derivation of identity status (e.g., achievement or moratorium) using these instruments. For instance, it is not possible to determine whether the exploration is ongoing or has been concluded. This was also the reason why we did *not* extract clusters (of identity statuses) with the present data to investigate criterion validity. Furthermore, because our data were cross-sectional, predictive validity could not be investigated. However, our scales will be administered in two further waves of the GESIS Panel, thus enabling longitudinal analyses and further investigation of identity development in adults.

### ***Outlook and suggestions for future research***

Umaña-Taylor, Yazedjian, and Bámaca-Gómez (2004) suggested an additional affective component (besides commitment and exploration) for the ethnic identity model, namely affirmation. This additional component captures the affect ascribed to the respective identity and involves the degree to which individuals feel positively or negatively about their ethnic group membership (Umaña-Taylor et al., 2004). This could be an interesting add-on, particularly for the national (German) identity measure, given that a cautious expression of identification with the nation prevails in the native population due to German history and Holocaust education (Maehler, 2012). In other words, World War II with all its connotations has become a crucial part of German history and the positioning of German identity today (Buruma, 1994; Oliner, 2008). The burden of Germany's role in World War II and the atrocities committed (e.g., the Holocaust) are a vivid part of German identity (Hein & Selden, 2000). Hence, contemporary Germans are very reluctant to express high levels of identification with their nation (Hanke, 2009).

Furthermore, future research can use the exploration and commitment subscales to derive identity profiles along the lines of the acculturation approach (Berry, 1997). So far, the derivation of acculturation profiles has referred only to the degree of identification (commitment) with the respective cultures. Considering the exploration dimension can lead to a better understanding of the different acculturation types (integration, separation, assimilation, and marginalization; Berry, 1997) and may have a predictive function. It could also be relevant to supporting the acculturation of immigrants in receiving societies, for example by proactively supplying them with information about their new environment.

As it is conceivable that the ethnic and national identity scales show a different structure for individuals with involuntary migration histories, a further important aim for future surveys should be to achieve good coverage of refugees in the sample. Related to this, future research still needs to investigate the scales' psychometric properties and comparability across different sociodemographic characteristics, particularly across age cohorts.

In summary, our study contributes to the theoretical advance of the identity development approach insofar as we tested the approach for a representative sample of first-generation immigrant and native *adults* in Germany. Furthermore, based on the two-dimensional acculturation approach, we introduced the measurement of national identity development in first-generation immigrants, which is a crucial issue at the moment, not only in Germany but also in other European countries.

### **Acknowledgments**

The data used have been provided by GESIS Leibniz Institute for the Social Sciences. The cognitive pretesting of the identity items was part of a pretesting request commissioned by the PIAAC-L project (funding: Federal Ministry of Education and Research, grant number 01JP1301 A, B,C).

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

### **Funding**

This work was supported by the Bundesministerium für Bildung und Forschung [01JP1301 A, B,C].

### **ORCID**

Débora B. Maehler  <http://orcid.org/0000-0001-7043-8786>

## References

- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, 46, 5–34. doi:10.1111/j.1464-0597.1997.tb01087.x
- Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). *Immigrant youth in cultural transition. Acculturation, identity, and adaptation across national contexts*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Buruma, I. (1994). *The wages of guilt: Memories of war in Germany and Japan*. New York, NY: Farrar, Straus and Giroux.
- Chirkov, V. (2009). Critical psychology of acculturation: What do we study and how do we study it, when we investigate acculturation? *International Journal of Intercultural Relations*, 33(2), 94–105. doi: 10.1016/j.ijintrel.2008.12.004
- Fadjuoff, P., Pulkkinen, L., & Kokko, K. (2016). Identity formation in adulthood: A longitudinal study from age 27 to 50. *Identity: an International Journal of Theory and Research*, 16(1), 8–23. doi:10.1080/15283488.2015.1121820
- Field, A. (2005). *Discovering statistics using SPSS*. London: Sage Publications.
- GESIS. (2016a). *GESIS Panel extended edition*. Datafile Version 13.0.0 (ZA5664). Cologne: Author. doi:10.4232/1.12469
- GESIS Panel. (2016b). *GESIS Panel study descriptions related to ZA5664 and ZA5665*. Cologne: GESIS Data Archive. Retrieved from <https://dbk.gesis.org/dbksearch/download.asp?db=E&id=52782>
- Hanke, K. (2009). *Victim and perpetrator perspectives in post World War II contexts: Intergroup forgiveness and historical closure in Europe and East Asia* (Doctoral dissertation). Victoria University of Wellington, New Zealand. Retrieved from <http://researcharchive.vuw.ac.nz/handle/10063/1156>
- Harkness, J. A. (2003). Questionnaire translation. In J. A. Harkness, F. J. R. Van de Vijver, & P. P. Mohler (Eds.), *Cross-cultural survey methods* (pp. 35–56). Hoboken, NJ: John Wiley & Sons.
- Hein, L. E., & Selden, M. (2000). *Censoring history citizenship and memory in Japan, Germany, and the United States*. New York, NY: M. E. Sharpe.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multi-Disciplinary Journal*, 6(1), 1–55. doi:10.1080/10705519909540118
- Leibniz Association. (2015). *Guidelines. Recommendations made by the Leibniz Association for safeguarding good scientific practice and handling complaints concerning scientific misconduct*. Retrieved from [http://www.leibniz-gemeinschaft.de/fileadmin/user\\_upload/Bilder\\_und\\_Downloads/%C3%9Cber\\_uns/Gute\\_wissenschaftliche\\_Praxis/Guidelines\\_on\\_Safeguarding\\_Good\\_Scientific\\_Practice\\_2018.pdf](http://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/%C3%9Cber_uns/Gute_wissenschaftliche_Praxis/Guidelines_on_Safeguarding_Good_Scientific_Practice_2018.pdf)
- Maehler, D. B. (2012). *Akkulturation und Identifikation bei eingebürgerten Migranten in Deutschland* [Acculturation and identification among naturalized immigrants in Germany]. Münster, Germany: Waxmann.
- Maehler, D. B., Teltemann, J., Rauch, D., & Hachfeld, A. (2015). Interdisziplinäre Operationalisierung des Migrationshintergrunds [Interdisciplinary operationalization of migration background]. In D. B. Maehler & H. U. Brinkmann (Eds.), *Methoden der Migrationsforschung. Ein Interdisziplinärer Forschungsleitfaden* [Methods of migration research. An interdisciplinary research guide] (pp. 263–282). Wiesbaden, Germany: Springer VS.
- Maehler, D. B., Zabal, A., & Hanke, K. (2019). Adults' identity in acculturation settings: The multigroup ethnic & national identity measure (MENI). Identity
- Musso, P., Moscardino, U., & Inguglia, C. (2018). The Multigroup Ethnic Identity Measure – Revised (MEIM–R): Psychometric evaluation with adolescents from diverse ethnocultural groups in Italy. *European Journal of Developmental Psychology*, 15(4), 395–410. doi:10.1080/17405629.2016.1278363
- Oliner, S. P. (2008). *Altruism, intergroup apology, forgiveness and reconciliation*. St. Paul, MN: Paragon House.
- Organisation for Economic Co-operation and Development (OECD). (2013). *OECD guidelines on measuring subjective well-being*. Paris, France: OECD Publishing.
- Organisation for Economic Co-operation and Development (OECD). (2016). *International migration outlook*. Paris, France: OECD Publishing.
- Orton, A. (2012). *Building migrants' belonging through positive interactions. A guide for policy-makers and practitioners* (Council of Europe Policy Document). Strasbourg: Council of Europe. Retrieved from: <https://www.coe.int/t/democracy/migration/Source/migration/EnglishMigrantBelongingWeb.pdf>
- Otto, W., Disch, K., Beitz, C., Gebhardt, S., Neuert, C., & Menold, N. (2015). *PIAAC-L. Kognitiver pretest*. Mannheim: GESIS – Leibniz Institute for the Social Sciences. Retrieved from <http://pretest.gesis.org/pdf/ProjektBericht/Pretest-Projektbericht-15-11.pdf>
- Phinney, J. S. (1989). Stages of ethnic identity development in minority group adolescents. *The Journal of Early Adolescence*, 9(1–2), 34–49. doi:10.1177/0272431689091004
- Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with adolescents and young adults from diverse groups. *Journal of Adolescent Research*, 7, 156–176. doi: 10.1177/074355489272003
- Phinney, J. S. (2003). Ethnic identity and acculturation. In K. M. Chun, P. Balls Organista, & G. Marín (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 63–82). Washington, DC: American Psychological Association.

- Phinney, J. S., Berry, J. W., Vedder, P., & Liebkind, K. (2006). The acculturation experience. In J. W. Berry, J. S. Phinney, D. L. Sam, & P. Vedder (Eds.), *Immigrant youth in cultural transition. Acculturation, identity and adaptation across national context* (pp. 71–116). Mahwah, NJ: Lawrence Erlbaum Associates.
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271–281. doi:10.1037/0022-0167.54.3.271
- Quintana, S. M. (2007). Racial and ethnic identity: Developmental perspectives and research. *Journal of Counseling Psychology*, 54, 259–270. doi:10.1037/0022-0167.54.3.259
- Romero, A., & Roberts, R. (2003). The impact of multiple dimensions of ethnic identity on discrimination and adolescents' self-esteem. *Journal of Applied Social Psychology*, 33, 2288–2305. doi:10.1111/j.1559-1816.2003.tb01885.x
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2). doi:10.18637/jss.v048.i02
- Rutkowski, L., & Svetina, D. (2014). Assessing the hypothesis of measurement invariance in the context of large-scale international surveys. *Educational and Psychological Measurement*, 74(1), 31–57. doi:10.1177/0013164413498257
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Test of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2), 23–74.
- Schwartz, S. J., Park, I. J. K., Huynh, Q.-L., Zamboanga, B. L., Umaña-Taylor, A. J., Lee, R. M., & Agocha, B. (2012). The American Identity Measure: Development and validation across ethnic group and immigrant generation. *Identity: an International Journal of Theory and Research*, 12(2), 93–128. doi:10.1080/15283488.2012.668730
- semTools Contributors. (2016). *semTools: Useful tools for structural equation modeling*. R package version 0.4-14. Retrieved from <https://CRAN.R-project.org/package=semTools>
- Syed, M., Azmitia, M., & Phinney, J. S. (2007). Stability and change in ethnic identity among Latino emerging adults in two contexts. *Identity: an International Journal of Theory and Research*, 7(2), 155–178. doi:10.1080/15283480701326117
- Syed, M., Walker, L. H. M., Lee, R. M., Zamboanga, B. L., Armenta, B. E., Umaña-Taylor, A. J., ... Huynh, Q. L. (2013). A two-factor model of ethnic identity exploration: Implications for identity coherence and well-being. *Cultural Diversity & Ethnic Minority Psychology*, 19(2), 143–154. doi:10.1037/a0030564
- Tanner, A., Schaurer, I., Enderle, T., & Weyandt, K. (2016). *GESIS panel wave report: Wave cf*. Cologne, Germany: GESIS Data Archive.
- Umaña-Taylor, A. J., Yazedjian, A., & Bámaca-Gómez, M. (2004). Developing the ethnic identity scale using Eriksonian and social identity perspectives. *Identity: an International Journal of Theory and Research*, 4(1), 9–38. doi:10.1207/S1532706XID0401\_2
- UNESCO. (1999). *Operational manual for ISCED 1997* (International Standard Classification of Education) (1st ed.). Paris, France: Author.
- Valle Painter, C. (2013). *Sense of belonging: Literature review* (Research Report). Canada: Citizenship and Immigration Canada. Retrieved from <https://www.canada.ca/en/immigration-refugees-citizenship/corporate/reports-statistics/research>
- Van de Vijver, F. J. R., Blommaert, J. M. E., Gkoumasi, G., & Stogianni, M. (2015). On the need to broaden the concept of ethnic identity. *International Journal of Intercultural Relations*, 46(1), 36–46. doi:10.1016/j.ijintrel.2015.03.021
- Wakefield, J. R. H., Sani, F., Madhok, V., Norbury, M., Dugard, P., Gabbanelli, C., ... Poggesi, F. (2017). The relationship between group identification and satisfaction with life in a cross-cultural community sample. *Journal of Happiness Studies*, 18(3), 785–807. doi:10.1007/s10902-016-9735-z
- Waterman, A. S. (2015). What does it mean to engage in identity exploration and to hold identity commitments? A methodological critique of multidimensional measures for the study of identity processes. *Identity: an International Journal of Theory and Research*, 15(4), 309–349. doi:10.1080/15283488.2015.1089403
- Yoon, E. (2011). Measuring ethnic identity in the Ethnic Identity Scale and the Multigroup Ethnic Identity Measure–Revised. *Cultural Diversity & Ethnic Minority Psychology*, 17(2), 144–155. doi:10.1037/a0023361